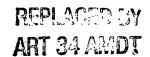
CLAIMS



- 1. A method of growing a p-type nitride semiconductor material by molecular beam epitaxy, the method comprising supplying bis(cyclopentadienyl)magnesium (Cp₂Mg) during the growth process.
- 2. A method as claimed in claim 1 wherein the nitride semiconductor material is p-type (Ga,Al)N.
- 3. A method as claimed in claim 1 or 2 and comprising supplying ammonia gas during the growth process.
- 4. A method as claimed in claim 1, 2 or 3 and comprising supplying ammonia gas, gallium and Cp₂Mg to a growth chamber, thereby to grow a layer of p-type GaN.
- 5. A method as claimed in claim 1, 2 or 3 and comprising supplying ammonia gas, aluminium, gallium and Cp₂Mg to a growth chamber, thereby to grow a layer of p-type AlGaN.
- 6. A method as claimed in any preceding claim, and comprising changing the supply rate of Cp₂Mg during the growth of the nitride semiconductor material.
- 7. A method as claimed in any preceding claim wherein the growth process is carried out at a temperature of at least 700°C.
- 8. A method as claimed in any preceding claim wherein the growth process is carried out at a temperature of at least 800°C.
- 9. A method as claimed in any preceding claim wherein the growth process is carried out at a temperature of at least 850°C.